

Tropical Cyclone Report
Tropical Storm Jerry
6-8 October 2001

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30 November 2001

Jerry was a poorly-organized, short-lived tropical storm that passed through the Windward Islands with minimal impact.

a. Synoptic History

A westward-moving tropical wave crossed the west coast of Africa and entered the tropical Atlantic on 1 October. The wave's cloud pattern changed little in organization until 4 October, when the associated deep convection increased and exhibited some curved banding in the vicinity of 40°W longitude. The system did not become significantly better organized for a couple more days, as it continued westward. On 6 October, the deep cloudiness became more concentrated and it is estimated that a tropical depression, Twelve, formed by 1200 UTC that day, about 540 n mi east-southeast of Barbados.

A ridge of high pressure in the lower- to mid-troposphere steered the tropical cyclone on a heading slightly north of west at 15-20 kt. There was fairly weak vertical shear over the system, and the depression strengthened into Tropical Storm Jerry around 0000 UTC 7 October. Jerry's sustained winds increased to their maximum speed, estimated near 45 kt, as the storm approached the Windward Islands on 7 October. A little later that day, the center of the tropical cyclone passed a short distance south of Barbados. As it moved through the Windward Islands around 0000 UTC 8 October, Jerry apparently made a jog to the northwest and temporarily decreased its forward speed. There may also have been a northward re-formation of the center; aircraft data showed evidence of multiple low-level centers along a northeast-southwest axis around that time.

After passing near St. Vincent around 0300 UTC on the 8th, Jerry moved into the eastern Caribbean Sea, its forward speed increasing to near 20 kt. Moderate northwesterly shear was disrupting the upper-level outflow, and the system lacked a single, well-defined center of circulation. Later on the 8th, Jerry's organization deteriorated further while the system was moving rapidly westward about 200 n mi south of Puerto Rico. The tropical cyclone then dissipated.

A map of the path of Jerry is presented in Fig.1, and the "best track" positions, intensities and minimum pressures of the tropical cyclone are given in Table 1.

b. Meteorological Statistics

Observations in Jerry (Figs. 2 and 3) include satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB), the Satellite Analysis Branch (SAB) and the U. S. Air Force Weather Agency (AFWA), as well as flight-level winds and surface wind

estimates from the 53rd Weather Reconnaissance Squadron of the U. S. Air Force Reserve Command. The highest wind speed reported at flight level (around 1000 ft) by aircraft was 56 kt at 2013 UTC 7 October, and 80 percent of this value corresponds to the maximum intensity estimate for the storm. The minimum central pressure estimate, 1004 mb at 0600 UTC 8 October, is based on an aircraft-extrapolated value. However, because the center was elongated, the aircraft was unable to close off a unique center and provide a “vortex message” around that time.

An automated station, Caravelle (number 78922, station elevation 33 m), at Martinique reported a sustained (10 minute average) wind of 39 kt with gusts to 50 kt around 0600 UTC 8 October. There were no ship reports of tropical storm force winds associated with Jerry. A ship with call sign FNOR reported a wind of 110°/33 kt at 15.3°N 60.9°W at 0600 UTC 8 October. Barbados reported a minimum pressure of 1007 mb at 1900 and 2000 UTC 7 October.

c. Casualty and Damage Statistics

There were no reports of damages or casualties associated with Jerry.

d. Forecast and Warning Critique

Because Jerry was a tropical storm for only 36 h, the average track forecast error values should not be considered meaningful. For the most part, the official and model forecast tracks correctly took Jerry on a west to west-northwestward heading into the eastern Caribbean Sea.

The official forecasts did not anticipate that Jerry would dissipate over the Caribbean. In fact, the majority of the NHC advisories indicated that the cyclone would become a hurricane in 2-3 days. Most of the SHIPS model forecasts, and quite a few of the coupled GFDL model forecasts, showed the system reaching hurricane strength in 48-72 h as well.

Table 2 lists the watches and warnings associated with Jerry. The tropical storm warnings were issued only about 9 h prior to the arrival of the center in the Windward Islands.

Table 1. Best track for Tropical Storm Jerry, 6-8 October 2001.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
06 / 1200	10.6	50.6	1008	25	tropical depression
06 / 1800	10.8	52.1	1007	30	"
07 / 0000	11.0	53.8	1007	35	tropical storm
07 / 0600	11.3	55.7	1007	40	"
07 / 1200	11.7	57.7	1007	45	"
07 / 1800	12.5	59.5	1007	45	"
08 / 0000	13.1	60.2	1006	45	"
08 / 0600	13.8	62.0	1004	45	"
08 / 1200	14.2	64.0	1007	35	"
08 / 1800	14.5	66.0	1008	25	tropical depression
09 / 0000					dissipated
08 / 0600	13.8	62.0	1004	45	minimum pressure

Table 2. Watch and warning summary for Tropical Storm Jerry, 6-8 October 2001.

Date/Time (UTC)	Action	Location
06/2100	Tropical storm watch	Barbados
07/0900	Tropical storm watch	Tobago and Grenada
07/1200	Tropical storm watch replaced by tropical storm warning	Barbados
07/1200	Tropical storm watch	St Vincent and the Grenadine Islands
07/1800	Tropical storm watch replaced by tropical storm warning	Grenada, St Vincent and the Grenadine Islands
07/2100	Tropical storm warning discontinued	Barbados
08/0000	Tropical storm watch discontinued	Tobago
08/0000	Tropical storm warning replaced by tropical storm watch	Grenada
08/0900	Tropical storm warning discontinued	St Vincent and the Grenadine Islands
08/0900	Tropical storm watch discontinued	Grenada

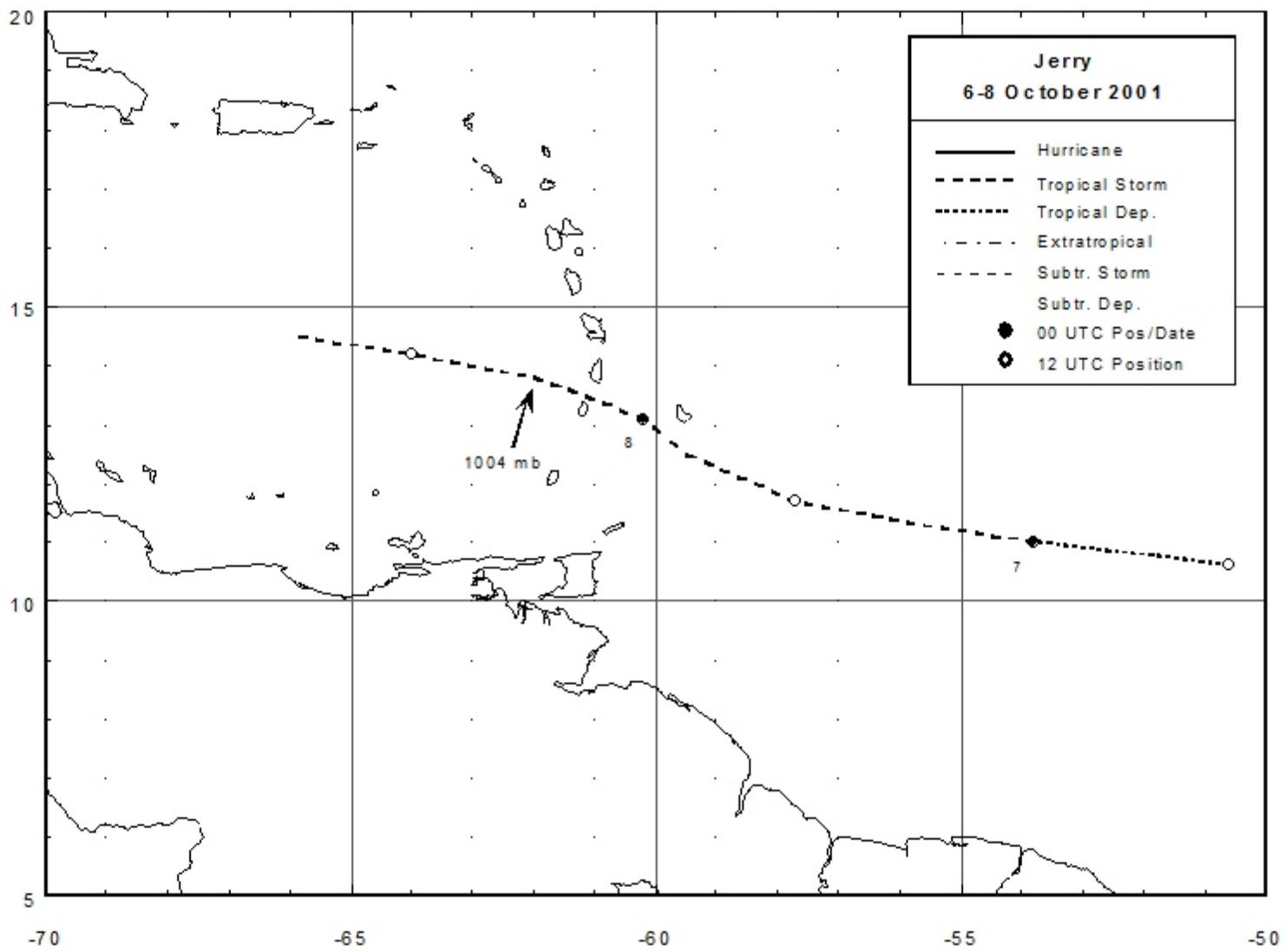


Figure 1. Best track positions for Tropical Storm Jerry, 6-8 October 2001.

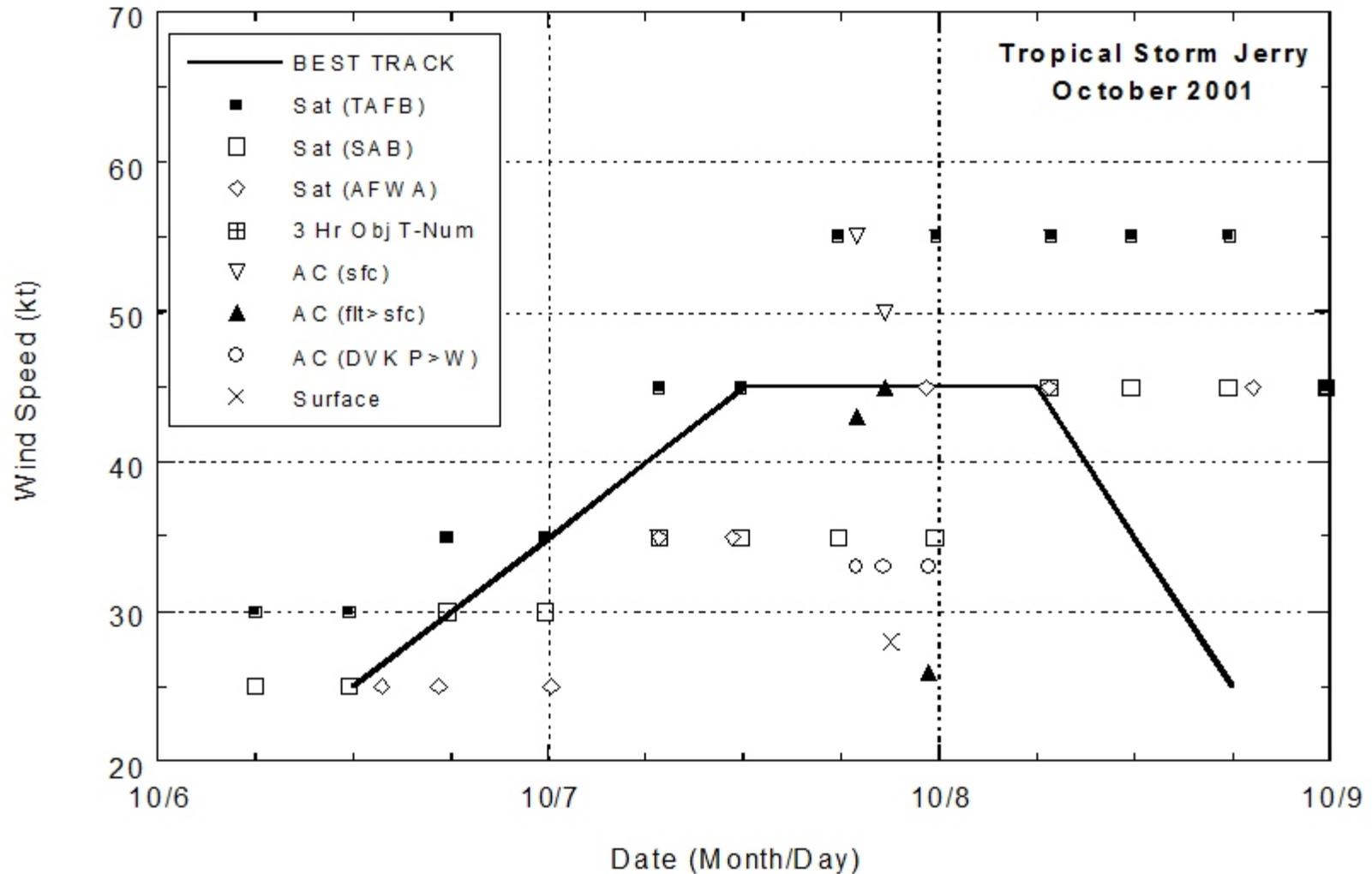


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Jerry, October 2001. Aircraft observations have been adjusted for elevation using 90%, 80%, and 80% reduction factors for observations from 700 mb, 850 mb, and 1500 ft, respectively. Dropwindsonde observations include actual 10 m winds (sfc), as well as surface estimates derived from the mean wind over the lowest 150 m of the wind sounding (LLM), and from the sounding boundary layer mean (MBL).

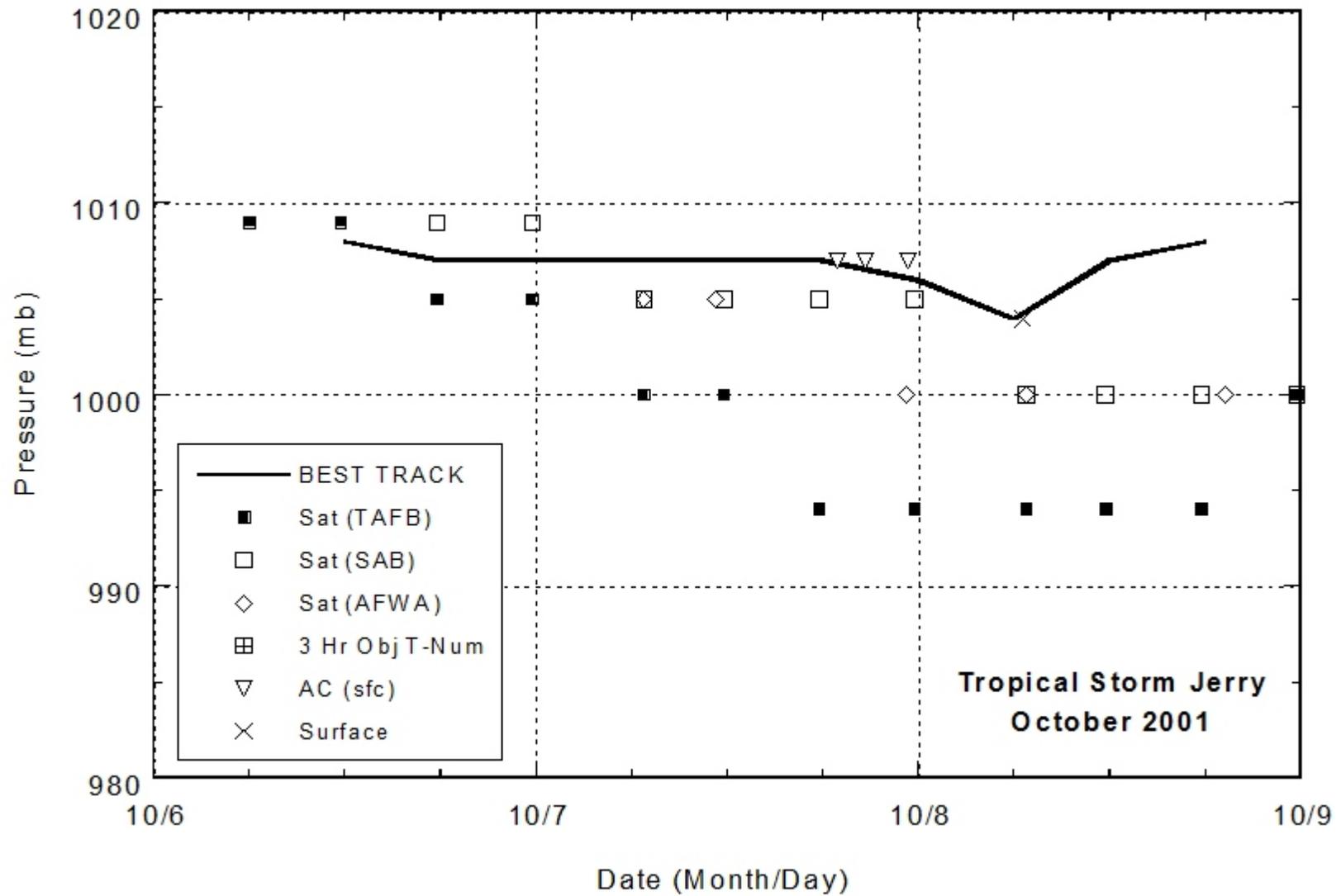


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Jerry, October 2001. The observation marked with an “x” is an aircraft-extrapolated value in this case.